

Service Manual

ORDER NO.
ARP2226

AUDIO/VIDEO STEREO RECEIVER

VSX-3900S

KUC, KUCXJ

VSX-3800

KUC, KUCXJ

- Refer to the service manual ARP2060, VSX – 3700S/KUC type
- This manual is applicable to the VSX – 3900S/KUC, KUCXJ, VSX – 3800/KUC and KUCXJ types.
- The “S” at the end of the model number indicates that a programable remote control unit is supplied.

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

The VSX-3900S/KUC, KUCXJ, VSX-3800/KUC and KUCXJ types are the same as the VSX-3700S/KUC type with the exception of the following sections.

Mark	Symbol & Description	Part No.					Remarks
		VSX-3700S/ KUC type	VSX-3900S/ KUC type	VSX-3900S/ KUCXJ type	VSX-3800/ KUC type	VSX-3800/ KUCXJ type	
⊙	COMPLEX assembly	AWZ2987	AWZ3513	AWZ3513	AWZ3513	AWZ3513	
⊙	CONTROL assembly	AWZ2990	AWZ3514	AWZ3514	AWZ3514	AWZ3514	
	Master VOL assembly	AAB1119	AAB1207	AAB1207	AAB1207	AAB1207	
	Tact knob (HITS)	.....	AAD1398	AAD1398	AAD1398	AAD1398	
	Tuner function knob	AAD1663	.....	.....	.....	.....	
	TU function button (PLS)	.....	AAD1983	AAD1983	AAD1983	AAD1983	
	Station knob	AAD1665	AAD1924	AAD1924	AAD1924	AAD1924	
	Acrylic panel	AAK1981	.....	.....	.....	.....	
	Acrylic panel (PLS)	.....	AAK2166	AAK2166	AAK2166	AAK2166	
	Front panel	AMB1661	AMB1819	AMB1819	AMB1820	AMB1820	
	Screw	.....	ABA-222	ABA-222	ABA-222	ABA-222	
	Washer	ABF1017	.....	.....	.....	.....	
	FM antenna	ADH1004	ADH1008	ADH1008	ADH1008	ADH1008	
	Packing case	AHD1889	AHD2059	AHD2123	AHD2060	AHD2124	
	Operating instructions (English)	ARB1258	ARB1319	ARB1319	ARB1319	ARB1319	
	Remote control unit	AXD1150	AXD1214	AXD1214	AXD1215	AXD1215	
	Battery cover	.....	.....	.....	AZN1970	AZN1970	

⊙ COMPLEX assembly (AWZ3513)

The COMPLEX assembly (AWZ3513) is the same as the COMPLEX assembly (AWZ2987) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2987	AWZ3513	
	IC201	NJM4558DXP	RC4558DXP	
	Q102, Q103	RN2201	XDA143ES	
	Q261, Q262, Q605	RN1203	XDC124ES	
	Q606, Q751	RN1201	XDC143ES	
	C118	CKDYF103Z50	CKDYX103M25	
	C751 (0.01/AC400V)	ACG1005	.....	
	C751	.....	CKDYF103Z50	

⊙ CONTROL assembly (AWZ3514)

The CONTROL assembly (AWZ3514) is the same as the CONTROL assembly (AWZ2990) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2990	AWZ3514	
	Q301, Q401	RN1203	XDC124ES	
	S412, S425, S431	.....	ASG1034	
	R408	RD1/8PM473J	.....	
	R414	.....	RD1/8PM222J	

2. REMOTE CONTROL UNIT (For VSX-3900S/KUC and KUCXJ types)

2.1 CONTRAST OF MISCELLANEOUS PARTS

The Remote control unit (AXD1214) is the same as the Remote control unit (AXD1150) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AXD1150	AXD1214	
	Conduction rubber sheet	AZA1269	AZA1316	
	Aluminum plate	AZA1268	AZA1317	

NOTE :

The only difference between the remote control unit (AXD1214) of the VSX-3900S/KUC, KUCXJ and the remote control unit (AXD1150) of the VSX-3700S/KUC is that the AXD1214 is equipped with MUTING, RETURN and HITS keys.

2.3 SCHEMATIC DIAGRAM

VSX-3900S/KUC,KUCXJ
VSX-3800/KUC,KUCXJ

NOTE :

□ : Indicates a chip resistor.

■ : Indicates a chip capacitor.

□ : Indicates a chip transistor.

□ : Indicates a chip diode.

1.RESISTORS:

Indicated in Ω , 1/4W, 1/8W, $\pm 5\%$ tolerance unless otherwise noted k:k Ω , M:M Ω , (F): $\pm 1\%$, (G): $\pm 2\%$, (K): $\pm 10\%$, (M): $\pm 20\%$ tolerance.

2.CAPACITORS:

Indicated in capacity (μ F)/voltage (V) unless otherwise noted:pF
Indication without voltage is 50V except electrolytic capacitor.

3.OTHERS:

→ :Signal route.

⊗ :Adjusting point.

The Δ mark found on some component parts importance of the safety factor of the part. Therefore, when replacing, be sure of use parts of identical designation.
* marked capacitors and resistors have parts numbers.

This is the basic schematic diagram but the actual circuit may vary due to improvements in design.

The underline indicates the switch position

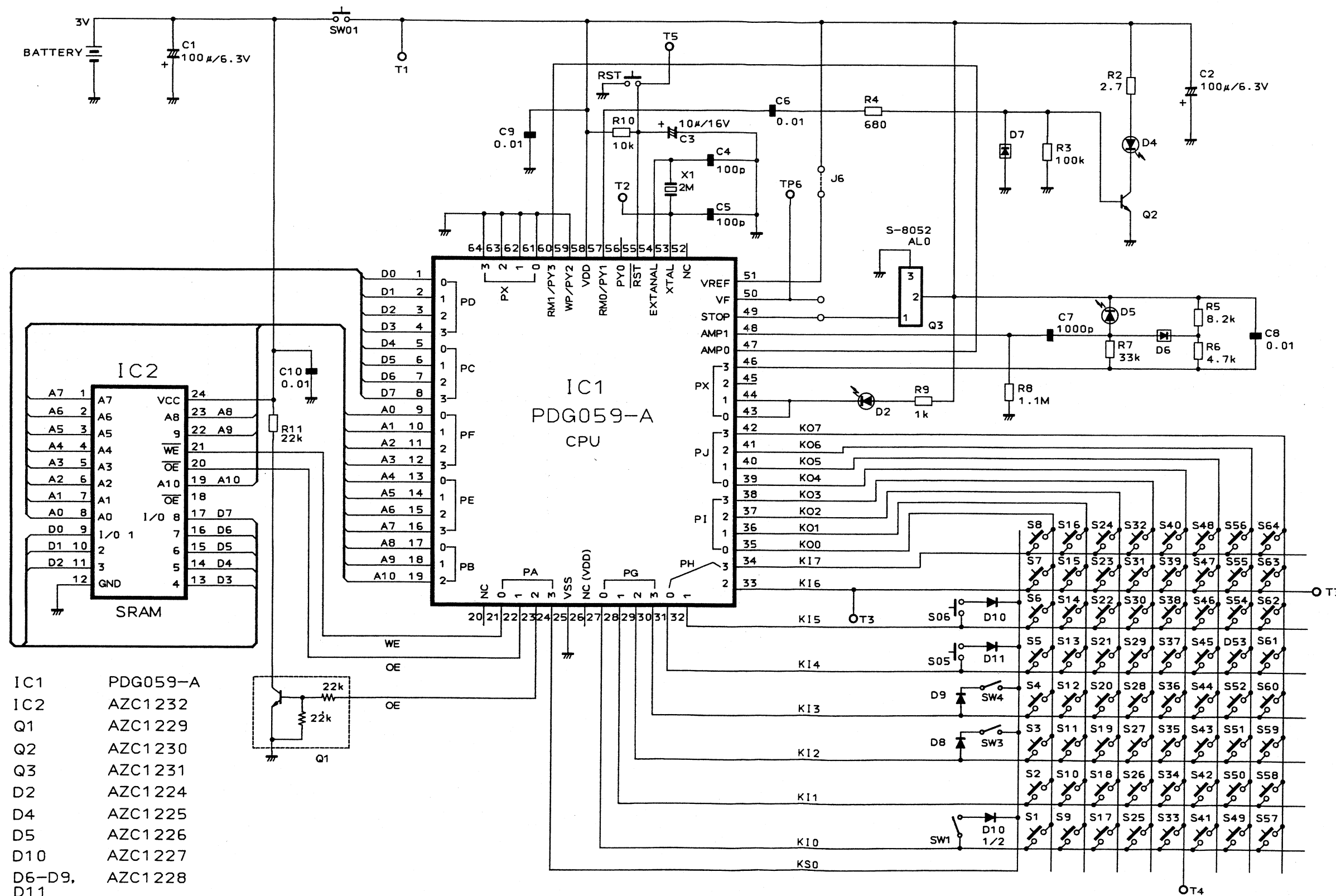
SW1: AUDIO/VIDEO
SR: RECALL/USE/LEARN
SW3: SR RECALL/USE
SW4: USE/LEARN
MEMORY CLEAR
S5: ON/OFF
CENTER/REAR
S6: ON/OFF
RESET
RST: ON/OFF

TAPE/VCR
S2: TAPE SELECT/ANT
S10: $\blacksquare/\blacksquare$
S8: $\blacktriangleright/\blacktriangleright$
S6: $\blacktriangleleft/\blacktriangleleft$
S7: $\blacktriangleright/\blacktriangleright$
S9: $\blacktriangleleft/\blacktriangleleft$
S15: 1/VCR CH-
S16: 2/VCR CH+
S1: VCR POWER
S12: $\bullet/\bullet$
S3: II/II

CD/VDP
S13: DISC-SELECT/DISPLAY
S14: $\blacksquare/\blacksquare$
S11: $\blacktriangleright/\blacktriangleright$ SEARCHCH
S20: $\blacktriangleleft/\blacktriangleleft$ CHAP/FR-TIME
S21: $\blacktriangleright/\blacktriangleright$
S5: $\blacktriangleleft/\blacktriangleleft$
S22: $\blacktriangleright/\blacktriangleright$
S35: II/II
S17: CD POWER/VDP POWER
S18: PGM
S19: CD+10

TUNER/TV (CD/VDP)
S24: 1 (1)
S25: 2 (2)
S26: 3 (3)
S27: 4 (4)
S23: 5 (5)
S29: 6 (6)
S30: 7 (7)
S31: 8 (8)
S32: 9 (9)
S28: 0/10 (0/10)
S34: 11 (MEMORY)
S36: 12 (CLR)
S33: STATION+/TV-CH+
S37: STATION-/TV-CH-
S41: BAND/DUAL
S52: DIRECT ACCESS/TV-FUNC
S53: FREQUENCY+/TV-VOL+
S43: FREQUENCY-/TV-VOL-
S59: SCAN/TV-DISP
S42: HITS
S54: CUSTOM MEMORY/CH-RETURN
S40: TV-POWER

AMP/AMP
S50: VOLUME+
S51: VOLUME-
S58: VDP
S63: VCR
S64: MUTE
S48: RECEIVER POWER
S57: TAPE2
S47: SURROUND MODE
S56: SURROUND LEVEL+
S55: SURROUND LEVEL-
S61: TUNER
S46: SLEEP
S60: CD
S62: PHONO
S4: TAPE1
S49: LINE
S45: VIDEO SIGNAL SELECT
S38: DELAY TIME
S39: RETURN
S44: SIMULATED STEREO



NOTE

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504		Transistor
Q315		Radiator type transistor
D203		Diode
R237		Resistor
C313		Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with @ (double circles) shows negative terminal.
4. The diode terminal marked with @ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

IC301

IC304

Q301

IC303

Q401

IC401

Q403 Q402

VR302

VR317

VR316

VR315

VR314

VR313

VR312

VR311

CONTROL assembly (AWZ3514)

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SAFETY INFORMATION

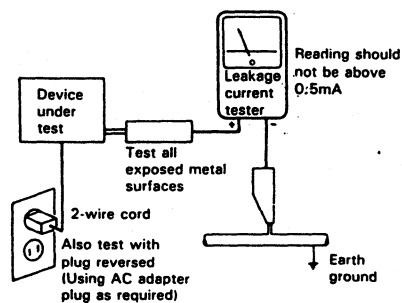
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. SPECIFICATIONS

Amplifier Section

[Front] (only front channels driven)

Continuous Average Power Output is 100 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.05 % total harmonic distortion.**

Continuous Power Output (only rear channels driven)**

Rear: 1 kHz, T.H.D. 0.08%, 8 Ω 15 W + 15 W

Dynamic power output (with EIA test signal)

2/4/8 Ω 230 W/200 W/150 W

Input (Sensitivity/ Impedance)

PHONO..... 2.5 mV/47 k Ω

CD, VDP/CDV, VCR/TAPE 1, TAPE 2..... 150 mV/47 k Ω

Phono Overload Level (T.H.D. 0.01 %, 1,000 Hz)

PHONO..... 130 mV

Output Level

TAPE REC..... 150 mV/2.2 k Ω

Frequency Response

PHONO (RIAA Equalization)..... 20 Hz to 20,000 Hz ± 0.5 dB

CD, VDP/CDV, VCR/TAPE 1, TAPE 2..... 10 Hz to 70,000 Hz ± 0.5 dB

Signal-to-Noise Ratio (IHF, short circuited, A network)

PHONO..... 72 dB

CD, VDP/CDV, VCR/TAPE 1, TAPE 2..... 97 dB

Signal-to-Noise Ratio (EIA, at 1 W (1 kHz))

PHONO..... 75 dB

CD, VDP/CDV, VCR/TAPE 1, TAPE 2..... 80 dB

Graphic Equalizer frequency band..... 60 Hz, 150 Hz, 400 Hz,

1 kHz, 2.4 kHz, 6 kHz, 15 kHz, ± 8 dB

FM Tuner Section

Frequency range..... 87.5 MHz to 108 MHz

Usable Sensitivity..... 10.8 dBf, IHF (0.95 μ V/75 Ω)

50 dB Quieting Sensitivity

MONO..... 15.3 dBf (1.6 μ V/75 Ω)

STEREO..... 37.1 dBf (19.5 μ V/75 Ω)

Signal-to-Noise Ratio

MONO..... 80 dB (at 85 dBf)

STEREO..... 76 dB (at 85 dBf)

Distortion

STEREO..... 0.3 % (1 kHz)

Alternate Channel Selectivity..... 55 dB (400 kHz)

Stereo Separation..... 35 dB (1 kHz)

Frequency Response..... 30 Hz to 15 kHz (± 1 dB)

Antenna Input..... 300 Ω balanced, 75 Ω unbalanced

AM Tuner Section

Frequency range

U.S. and Canadian models..... 530 kHz to 1,700 kHz

Australian model..... 531 kHz to 1,602 kHz

Multi-voltage model

With 10 kHz step..... 530 kHz to 1,700 kHz

With 9 kHz step..... 531 kHz to 1,602 kHz

Sensitivity

IHF, Loop antenna..... 300 μ V/m

Selectivity..... 20 dB

Signal-to-Noise Ratio..... 50 dB

Antenna..... AM Loop Antenna

VIDEO Section

Input (Sensitivity/Impedance)

VCR, VDP/CDV..... 1 Vp-p/75 Ω

Output (Level/Impedance)

VCR, MONITOR..... 1 Vp-p/75 Ω

Frequency Response

VCR, VDP/CDV $\rightarrow$ MONITOR..... 5 Hz - 10 MHz ± 0.5 dB

Signal to Noise Ratio..... 55 dB

Isolation..... 55 dB

Miscellaneous

Power Requirements

U.S., Canadian model..... AC 120 Volts, 60 Hz

Australian model..... a.c. 240 Volts ~, 50/60 Hz

Multi-voltage models..... ~ AC 110 V/ 120 V - 127 V/

220 V/ 240 V (switchable), 50/60 Hz

Power Consumption

U.S., Canadian models..... 390 W (UL), 500 VA (CSA)

Australian model..... 600 W

Multi-voltage models..... 625 W

In standby condition..... 3 W

AC Outlets (Except for Australian model)

SWITCHED x 2..... TOTAL 100 W MAX

UNSWITCHED x 1..... 200 W MAX

Dimensions..... 420 (W) X 125 (H) X 330 (D) mm

16-9/16(W) X 4-15/16 (H) X 13 (D) in

Weight (without package)..... 8.5 kg (18 lb 12 oz)

Furnished Parts

FM T-type Antenna..... 1

AM Loop Antenna..... 1

Remote control unit..... 1

Dry cell battery

VSX-3700S: size "AA" (LR6/AM-3) Alkaline..... 2

VSX-3600: size "AA" (R6/UM-3)..... 2

Operating Instructions..... 1

VSX-3700S: Template..... 1

* Measured pursuant to the Federal Trade Commission's Trade

Regulation rule on Power Output Claims for Amplifier.

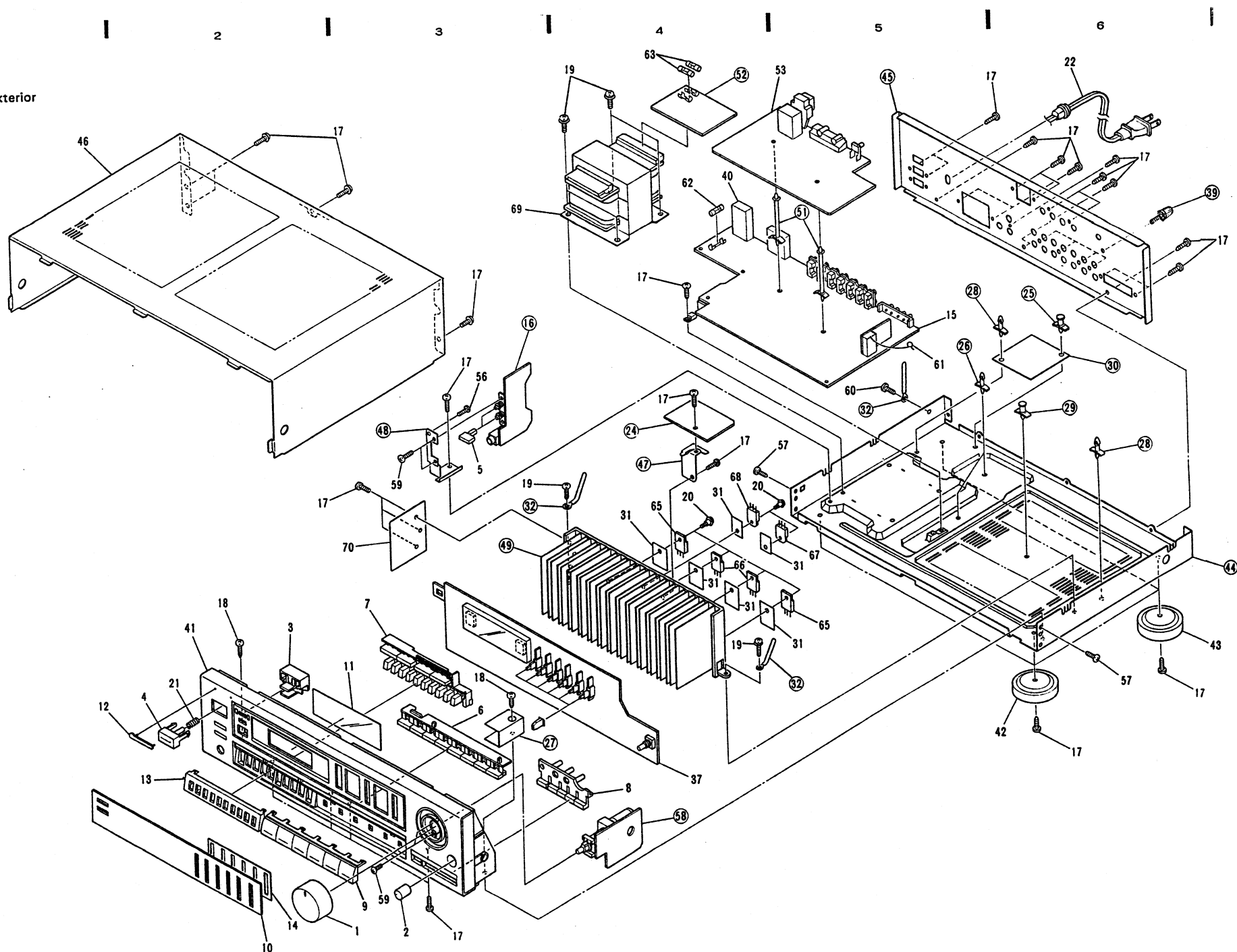
** Measured By Audio Spectrum Analyzer.

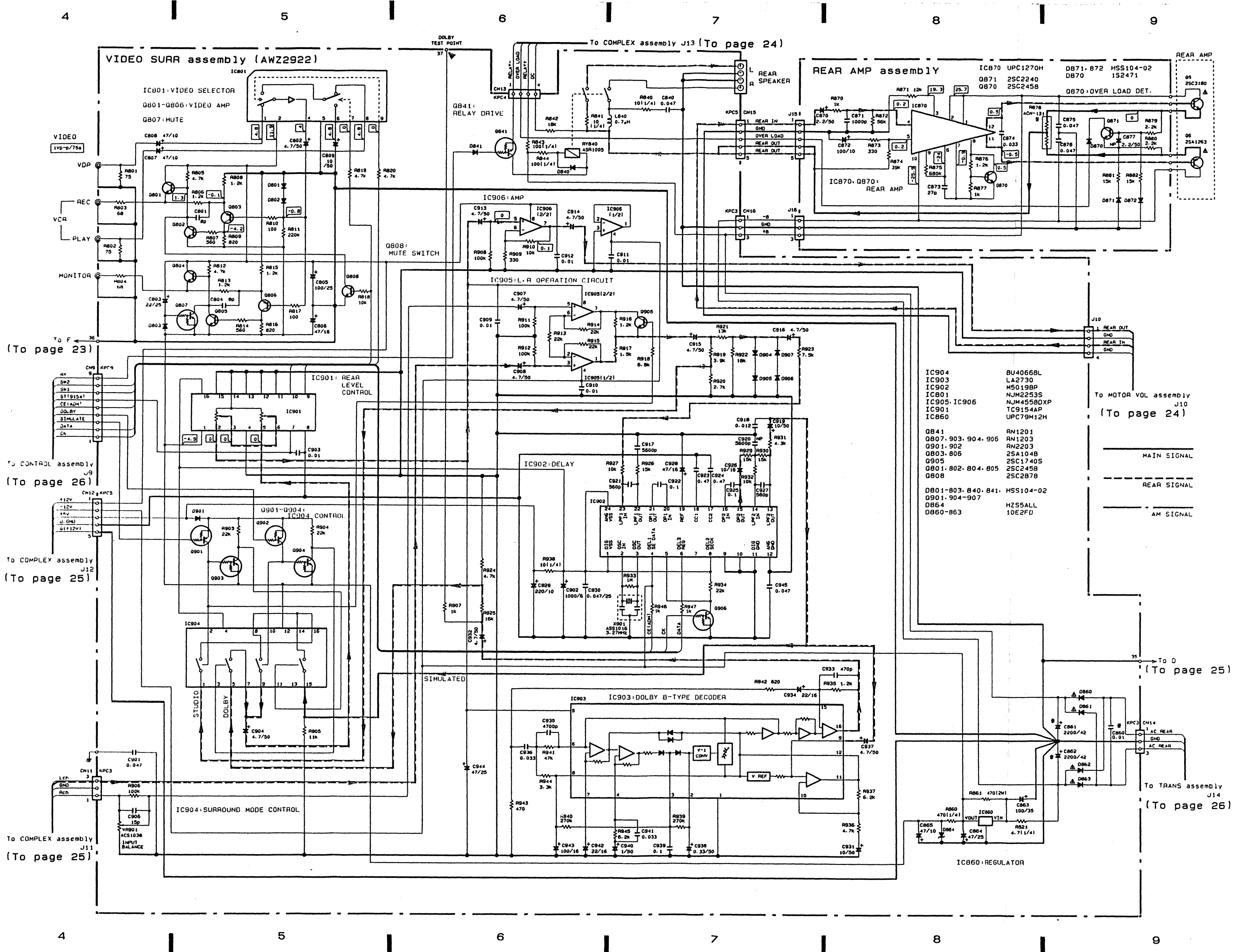
NOTE:

Specifications and design subject to possible modification without notice

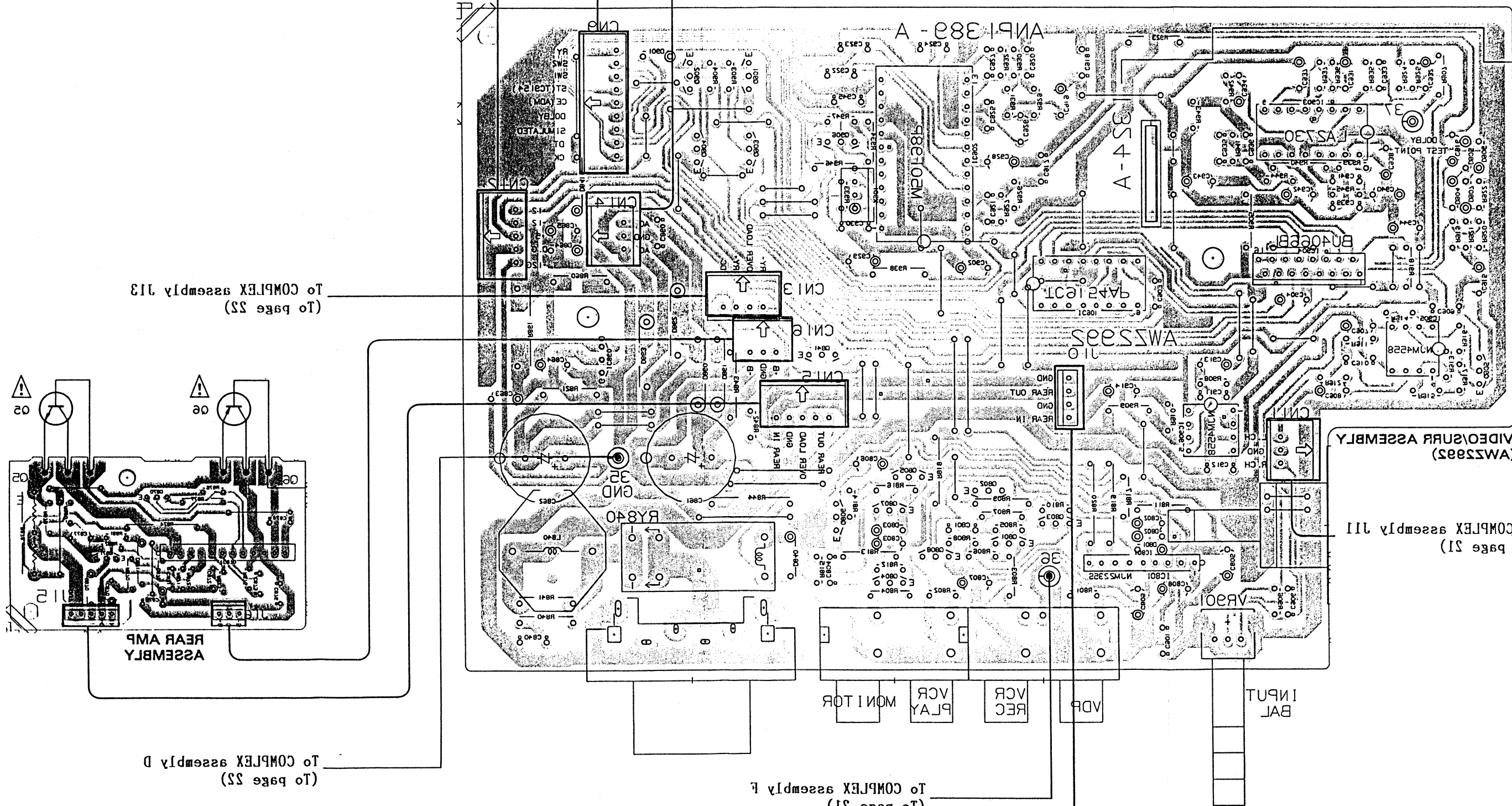
due to improvements.

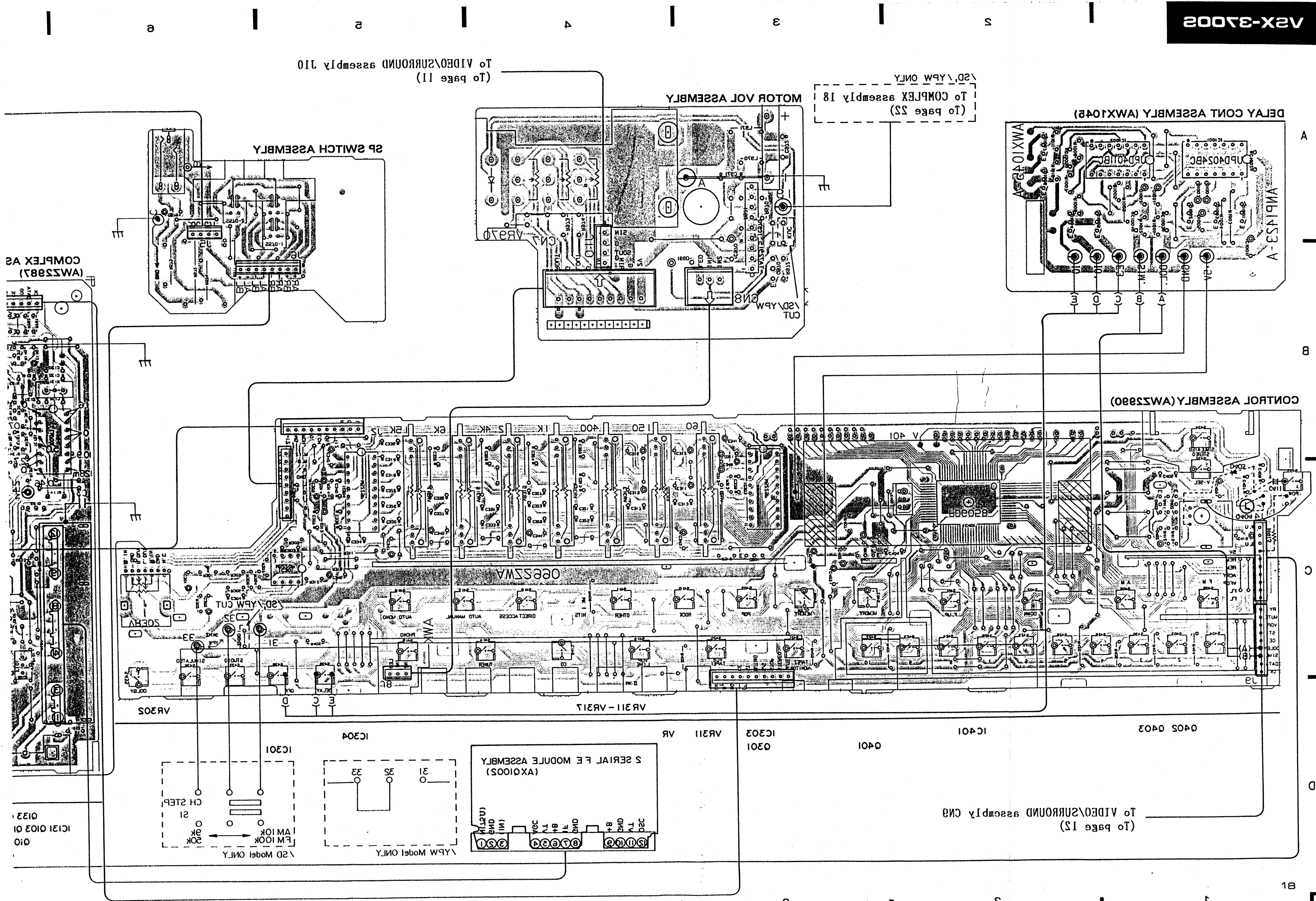
Exterior





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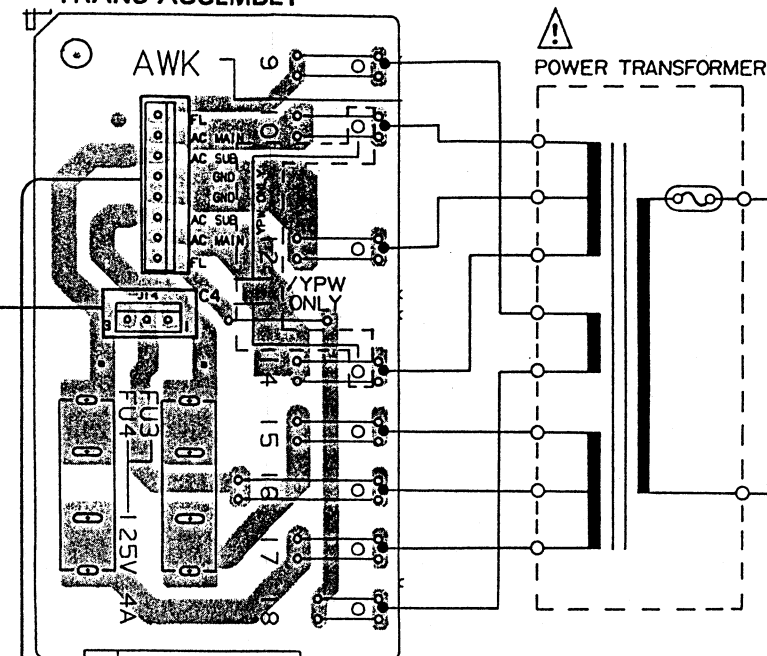




To VIDEO/SURROUND assembly CN14
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To VIDEO/SURROUND assembly CN13
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TRANS ASSEMBLY



A

B

C

D

To VIDEO/SURROUND
assembly 35
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AC POWER CORD
AC120V/60Hz

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE
HAZARD, REPLACEMENT FUSES SHOULD BE
OF THE SAME TYPE AND RATINGS ONLY.

ATTENTION: POUR LES
CONTINUES PROTECTION
CONTRE LES INCENDIES,
LES MEMES TYPES DE
FUSIBLES DOIVENT ETRE
UTILISES.

To MOTOR VOL assembly 19
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7SD, YPW ONLY

To VIDEO/SURROUND assembly CN12
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To VIDEO/SURROUND assembly CN11
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To VIDEO/SURROUND assembly 36
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Mark	No.	Description	Parts No.
CONTROL ASSEMBLY (AWZ2990)			
SEMICONDUCTORS			
IC301	OP-AMP IC	M5220P	
IC303,304	AUDIO IC	M5229P	
IC401	AMP CONTROL UCOM	PDG058	
Q301	TRANSISTOR	RN1203	
Q401	TRANSISTOR	RN1203	
Q402,403	TRANSISTOR	2SC2458	
Q404	TRANSISTOR	RN2203	
D311-314	DIODE	HSS104-02	
D401	ZENER DIODE	RD5.1ESB	
D402	DIODE	HSS104-02	
D403		1SS252	
SWITCHES			
S401-411	SWITCH	ASG1034	
S413-424	SWITCH	ASG1034	
S426-430	SWITCH	ASG1034	
S432-439	SWITCH	ASG1034	
CAPACITORS			
C301,302	ELECTR.CAPACITOR	CEAS4R7M50	
C303,304	CERAMIC CAPACITOR	CCCSL220J50	
C307-309	CERAMIC CAPACITOR	CKDYF103Z50	
C311,312	ELECTR.CAPACITOR	CEJA2R2M50	
C313,314	AUDIO FILM CAPACITOR	CFTXA124J50	
C315,316	ELECTROLYTIC CAPACITOR	CEJAR68M50	
C317,318	AUDIO FILM CAPACITOR	CFTXA683J50	
C319,320	AUDIO FILM CAPACITOR	CFTXA334J50	
C321,322	AUDIO FILM CAPACITOR	CFTXA183J50	
C323,324	AUDIO FILM CAPACITOR	CFTXA124J50	
C325,326	MYLOR FILM CAPACITOR	CQMA682K50	
C327,328	AUDIO FILM CAPACITOR	CFTXA563J50	
C329,330	MYLOR FILM CAPACITOR	CQMA272J50	
C331,332	AUDIO FILM CAPACITOR	CFTXA223J50	
C333,334	MYLOR FILM CAPACITOR	CQMA122J50	
C335,336	MYLOR FILM CAPACITOR	CQMA822K50	
C337,338	MYLOR FILM CAPACITOR	CQMA471K50	
C339,340	CERAMIC CAPACITOR	CCDSL680J50	
C341,342	CERAMIC CAPACITOR	CKDYF103Z50	
C343-345	ELECTR.CAPACITOR	CEAS100M50	
C346,347	ELECTR.CAPACITOR	CEAS220M25	
C348	CERAMIC CAPACITOR	CKDYF103Z50	

Mark	No.	Description	Parts No.
C401	ELECTROLYTIC CAPACITOR	CEJA4R7M50	
C402	ELECTROLYTIC CAPACITOR	CEJA0R1M50	
C403	ELECTR.CAPACITOR	CEJA101M6	
C404	CERAMIC CAPACITOR	CKDYF103Z50	
C405	CERAMIC CAPACITOR	CKDYF473Z50	
C406	CERAMIC CAPACITOR	ACG10021	
C407,408	CERAMIC CAPACITOR	CKDYF473Z50	
C409,410	ELECTROLYTIC CAPACITOR	CEJA100M35	
C411		CEAS100M50	
RESISTORS			
VR302	VARIABLE RESISTOR	ACS1056	
VR311-317	VR	ACU1023	
	Other resistors	RD1/8PM□□□□	
OTHERS			
X401	CERAMIC OSCILLATOR	ASS1022	
V401	FL TUBE	AAV1096	
	FL SPACER	AEB1120	
	REMOTE RECEIVER UNIT	AXX1010	
TRANS ASSEMBLY			
No parts are supplied with the TRANS ASSEMBLY			
VIDEO/SURR ASSEMBLY (AWZ2992)			
SEMICONDUCTORS			
IC801	E-SW IC	NJM2235S	
IC860	REGULATOR IC	UPC79M12H	
IC901	E-VR IC	TC9154AP	
IC902	IC	M50198P	
IC903	DOLBY-B IC	LA2730	
IC904	LOGIC IC	BU4066BL	
IC905,906	OP-AMP IC	NJM4558DXP	
Q801,802	TRANSISTOR	2SC2458	
Q803	TRANSISTOR	2SA1048	
Q804,805	TRANSISTOR	2SC2458	
Q806	TRANSISTOR	2SA1048	
Q807	TRANSISTOR	RN1203	
Q808	TRANSISTOR	2SC2878	
Q841	TRANSISTOR	RN1201	
Q901,902	TRANSISTOR	RN2203	
Q903,904	TRANSISTOR	RN1203	
Q905	TRANSISTOR	2SC1740S	
Q906	TRANSISTOR	RN1203	

Mark	No.	Description	Parts No.
D801-803	DIODE	HSS104-02	
D840,841	DIODE	HSS104-02	
D860-863	DIODE	10E2FD	
D864	ZENER DIODE	HZSSALL	
D901	DIODE	HSS104-02	
D904-907	DIODE	HSS104-02	
COIL			
L840	COIL	ATH1004	
RELAY			
RY840	RELAY	ASR1005	
CAPACITORS			
C801	CERAMIC CAPACITOR	CCCSL080D50	
C802	ELECTR.CAPACITOR	CEAS4R7M50	
C803	ELECTR.CAPACITOR	CEAS220M25	
C804	CERAMIC CAPACITOR	CCCSL080D50	
C805	ELECTR.CAPACITOR	CEAS101M25	
C806	ELECTR.CAPACITOR	CEAS470M16	
C807,808	ELECTR.CAPACITOR	CEAS470M10	
C809	ELECTR.CAPACITOR	CEAS100M50	
C840	MYLOR FILM CAPACITOR	CQMA473J50	
C860	CKA(0.01/AC250V)	ACG1005	
C861,862	ELECTROLYTIC CAPACITOR (2200/42v)	ACH1109	
C863	ELECTR.CAPACITOR	CEAS101M35	
C864	ELECTR.CAPACITOR	CEAS470M25	
C865	ELECTR.CAPACITOR	CEAS470M10	
C901	CERAMIC CAPACITOR	CKDYF473Z50	
C902	ELECTROLYTIC CAPACITOR	CEAS102M6	
C903	CERAMIC CAPACITOR	CKCYF473Z50	
C904	ELECTROLYTIC CAPACITOR	CEAS4R7M50	
C906	CERAMIC CAPACITOR	CCCSL150J50	
C907,908	ELECTR.CAPACITOR	CEAS4R7M50	
C909-912	CERAMIC CAPACITOR	CKDYF103Z50	
C913-916	ELECTR.CAPACITOR	CEAS4R7M50	
C917	MYLOR FILM CAPACITOR	CQMA562K50	
C918	MYLOR FILM CAPACITOR	CQMA123K50	
C919	ELECTR.CAPACITOR	CEAS100M50	
C920	MYLOR FILM CAPACITOR	CQMA562K50	
C921	MYLOR FILM CAPACITOR	CQMA561K50	
C922	AUDIO FILM CAPACITOR	CFTXA104J50	
C923,924	AUDIO FILM CAPACITOR	CFTXA474J50	
C925	AUDIO FILM CAPACITOR	CFTXA104J50	

Mark	No.	Description	Parts No.
C926	ELECTR.CAPACITOR	CEANP100M16	
C927	MYLOR FILM CAPACITOR	CQMA561K50	
C928	ELECTR.CAPACITOR	CEAS470M16	
C929	ELECTR.CAPACITOR	CEAS221M10	
C930	CERAMIC CAPACITOR	CKDYX473M25	
C931	ELECTR.CAPACITOR	CEAS100M50	
C932	ELECTR.CAPACITOR	CEAS4R7M16	
C933	CERAMIC CAPACITOR	CKDYB471K50	
C934	ELECTR.CAPACITOR	CEAS220M16	
C935	MYLOR FILM CAPACITOR	CQMA472J50	
C936	AUDIO FILM CAPACITOR	CFTXA333J50	
C937	ELECTR.CAPACITOR	CEAS4R7M50	
C938	ELECTR.CAPACITOR	CEASR33M50	
C939	AUDIO FILM CAPACITOR	CFTXA104J50	
C940	ELECTR.CAPACITOR	CEAS010M50	
C941	AUDIO FILM CAPACITOR	CFTXA333J50	
C942	ELECTR.CAPACITOR	CEAS220M16	
C943	ELECTR.CAPACITOR	CEAS101M16	
C944	ELECTR.CAPACITOR	CEAS470M25	
C945	CERAMIC CAPACITOR	CKCYF473Z50	
RESISTORS			
VR901	VARIABLE RESISTOR	ACS1038	
R821	CARBON FILM RESISTOR	RD1/4PMFLAR7J	
R840,841	CARBON FILM RESISTOR	RD1/4PMF100J	
R843,844	CARBON FILM RESISTOR	RD1/4PMF101J	
R860	CARBON FILM RESISTOR	RD1/4PMF471J	
R861	METAL OXIDE RESISTOR	RS2LMF471J	
R938	CARBON FILM RESISTOR	RD1/4PMF100J	
	Other resistors	RD1/8PM□□□□	
OTHERS			
X901	CERAMIC OSCILLATOR	ASS1016	
CN11	JUMPER CONNECTOR 3-P	KPC3	
CN12	JUMPER CONNECTOR 5-P	KPC5	
CN13	JUMPER CONNECTOR 4-P	KPC4	
CN14	JUMPER CONNECTOR 3-P	KPC3	
CN15	JUMPER CONNECTOR 5-P	KPC5	
CN16	JUMPER CONNECTOR 3-P	KPC3	

COMPLEX assembly

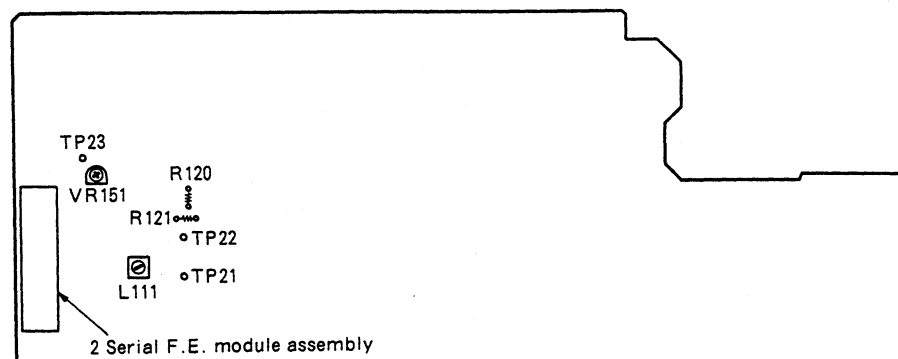


Fig. 6-1 adjustment point

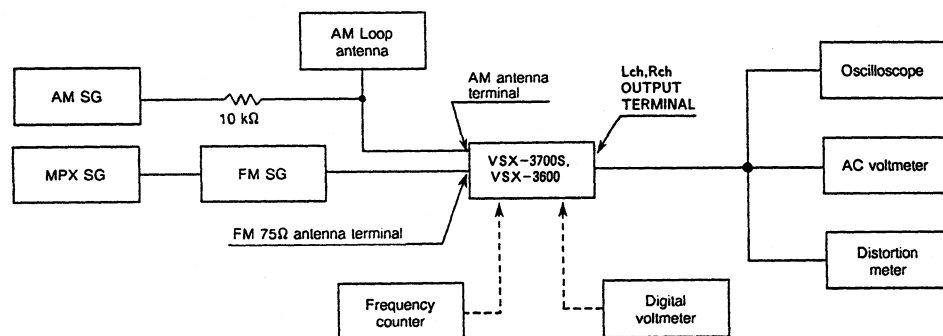


Fig. 6-2 MW and FM adjustment wiring diagram

7. IC INFORMATION

SYSTEM CONTROL MICRO COMPUTER (PDG058)

•Terminal function

No.	Terminal Name	I/O	Terminal function	No.	Terminal Name	I/O	Terminal function
1	a	DP	FL segment output (a)	24	G5	DP	FL grid output (G5)
2	b	DP	FL segment output (b)	25	G4	DP	FL grid output (G4)
3	c	DP	FL segment output (c)	26	G3	DP	FL grid output (G3)
4	d	DP	FL segment output (d)	27	G2	DP	FL grid output (G2)
5	e	DP	FL segment output (e)	28	G1	DP	FL grid output (G1)
6	f	DP	FL segment output (f)	29	9k/10k	I	Channel step frequency 9kHz (H)/10kHz (L) switching
7	g	DP	FL segment output (g)	30	XTAL	O	Connected to the 4.19MHz ceramic resonator
8	h	DP	FL segment output (h)	31	EXTAL	O	
9	i	DP	FL segment output (i)	32	RST	I/O	RESET input
10	j	DP	FL segment output (j)	33	N.C.	-	Not connect
11	k	DP	FL segment output (k)	34	Vdd	5V	Connected to +5V supply voltage
12	l	DP	FL segment output (l)	35	KEY OUT	O	KEY MATRIX output
13	m	DP	FL segment output (m)	36	KEY OUT	O	KEY MATRIX output
14	n	DP	FL segment output (n)	37	KEY OUT	O	KEY MATRIX output
15	o	DP	FL segment output (o)	38	KEY OUT	O	KEY MATRIX output
16	p	DP	FL segment output (p)	39	KEY OUT	O	KEY MATRIX output
17	q	DP	FL segment output (q)	40	KEY OUT	O	KEY MATRIX output
18	G11	DP	FL grid output (G11)	41	KEY OUT	O	KEY MATRIX output
19	G10	DP	FL grid output (G10)	42	KEY OUT	O	KEY MATRIX output
20	G9	DP	FL grid output (G9)	43	N.C.	-	Not connect
21	G8	DP	FL grid output (G8)	44	X0/CK	O	SERIAL (FUNCTION/PLL) CLK output
22	G7	DP	FL grid output (G7)			I	Destination 91' model (H)/90' model (L) switching
23	G6	DP	FL grid output (G6)				

3. OTHERS:

otherwise noted k: k Ω ,
% tolerance.

→ : Signal route.

⊗ : Adjusting point.

otherwise noted: pF
electrolytic capacitor.

The Δ mark found on some component parts
importance of the safety factor of the part. Therefore, when replacing,
be sure of use parts of identical designation.
* marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary
due to improvements in design.

The underline indicates the switch position

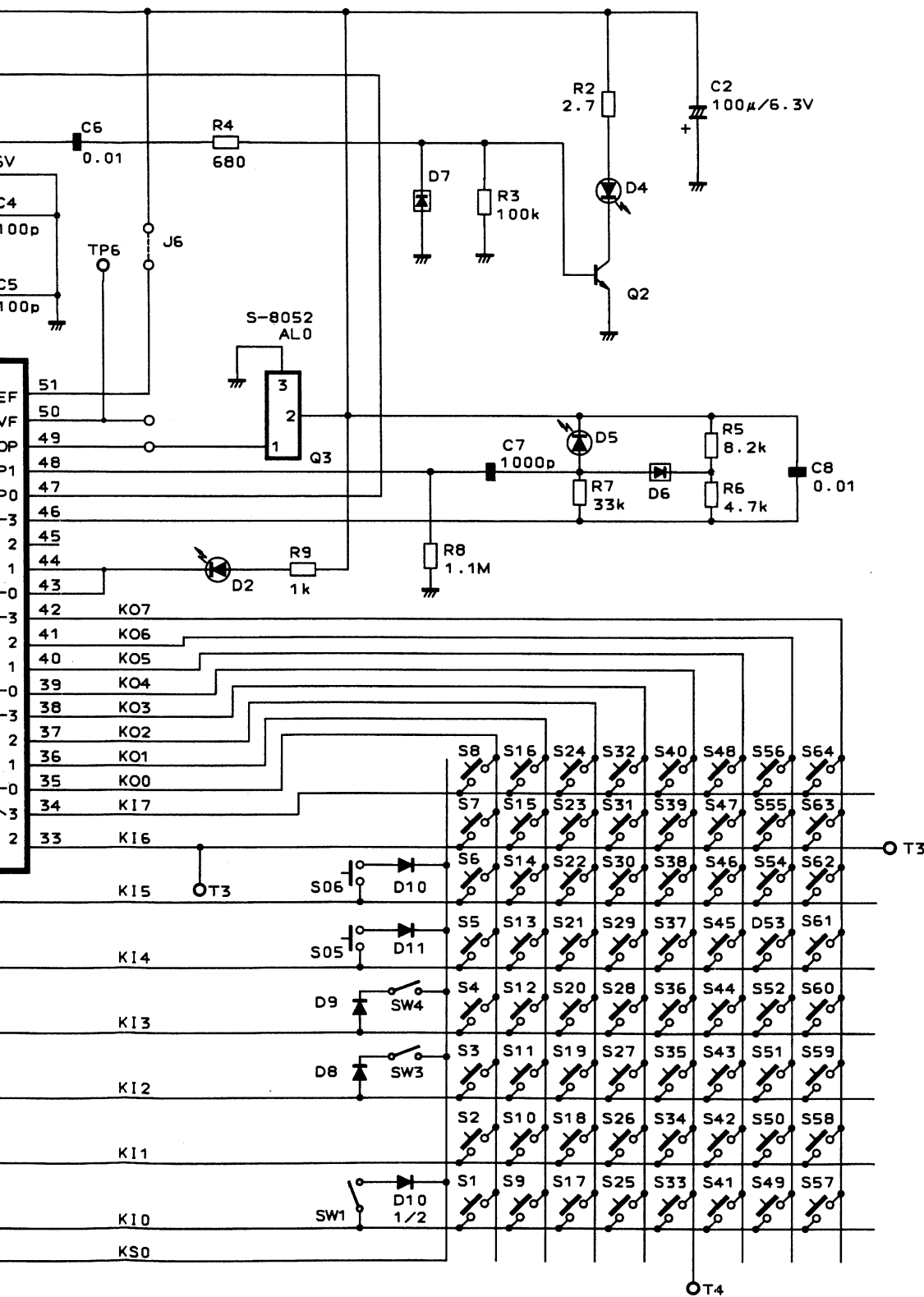
SW1: AUDIO/VIDEO
SR: RECALL/USE/LEARN
SW3: SR RECALL/USE
SW4: USE/LEARN
MEMORY CLEAR
S5: ON/OFF
CENTER/REAR
S6: ON/OFF
RESET
RST: ON/OFF

TAPE/VCR
S2: TAPE SELECT/ANT
S10: ■/■
S8: ▶/▶
S6: ◀/▶
S7: ▶/▶
S9: ▶
S15: 1/VCR CH-
S16: 2/VCR CH+
S1: VCR POWER
S12: ●/●
S3: ||/||

CD/VDP
S13: DISC-SELECT/DISPLAY
S14: ■/■
S11: ▶/▶ SEARCHCH
S20: ▶/▶ CHAP/FR-TIME
S21: ▶/▶
S5: ◀/▶
S22: ▶/▶
S35: ||/||
S17: CD POWER/VDP POWER
S18: PGM
S19: CD+10

TUNER/TV (CD/VDP)
S24: 1 (1)
S25: 2 (2)
S26: 3 (3)
S27: 4 (4)
S23: 5 (5)
S29: 6 (6)
S30: 7 (7)
S31: 8 (8)
S32: 9 (9)
S28: 0/10 (0/10)
S34: 11 (MEMORY)
S36: 12 (CLR)
S33: STATION+/TV-CH+
S37: STATION-/TV-CH-
S41: BAND/DUAL
S52: DIRECT ACCESS/TV-FUNC
S53: FREQUENCY+/TV-VOL+
S43: FREQUENCY-/TV-VOL-
S59: SCAN/TV-DISP
S42: HITS
S54: CUSTOM MEMORY/CH-RETURN
S40: TV-POWER

AMP/AMP
S50: VOLUME+
S51: VOLUME-
S58: VDP
S63: VCR
S64: MUTING
S48: RECEIVER POWER
S57: TAPE2
S47: SURROUND MODE
S56: SURROUND LEVEL+
S55: SURROUND LEVEL-
S61: TUNER
S46: SLEEP
S60: CD
S62: PHONO
S4: TAPE1
S49: LINE
S45: VIDEO SIGNAL SELECT
S38: DELAY TIME
S39: RETURN
S44: SIMULATED STEREO



2.3 SCHEMATIC DIAGRAM

NOTE :

□ : Indicates a chip resistor.

■ : Indicates a chip capacitor.

□ : Indicates a chip transistor.

□ : Indicates a chip diode.

1. RESISTORS:

Indicated in Ω , 1/4W, 1/8W, $\pm 5\%$ tolerance unless otherwise noted.
M: M Ω , (F): $\pm 1\%$, (G): $\pm 2\%$, (K): $\pm 10\%$, (M): $\pm 20\%$ tolerance.

2. CAPACITORS:

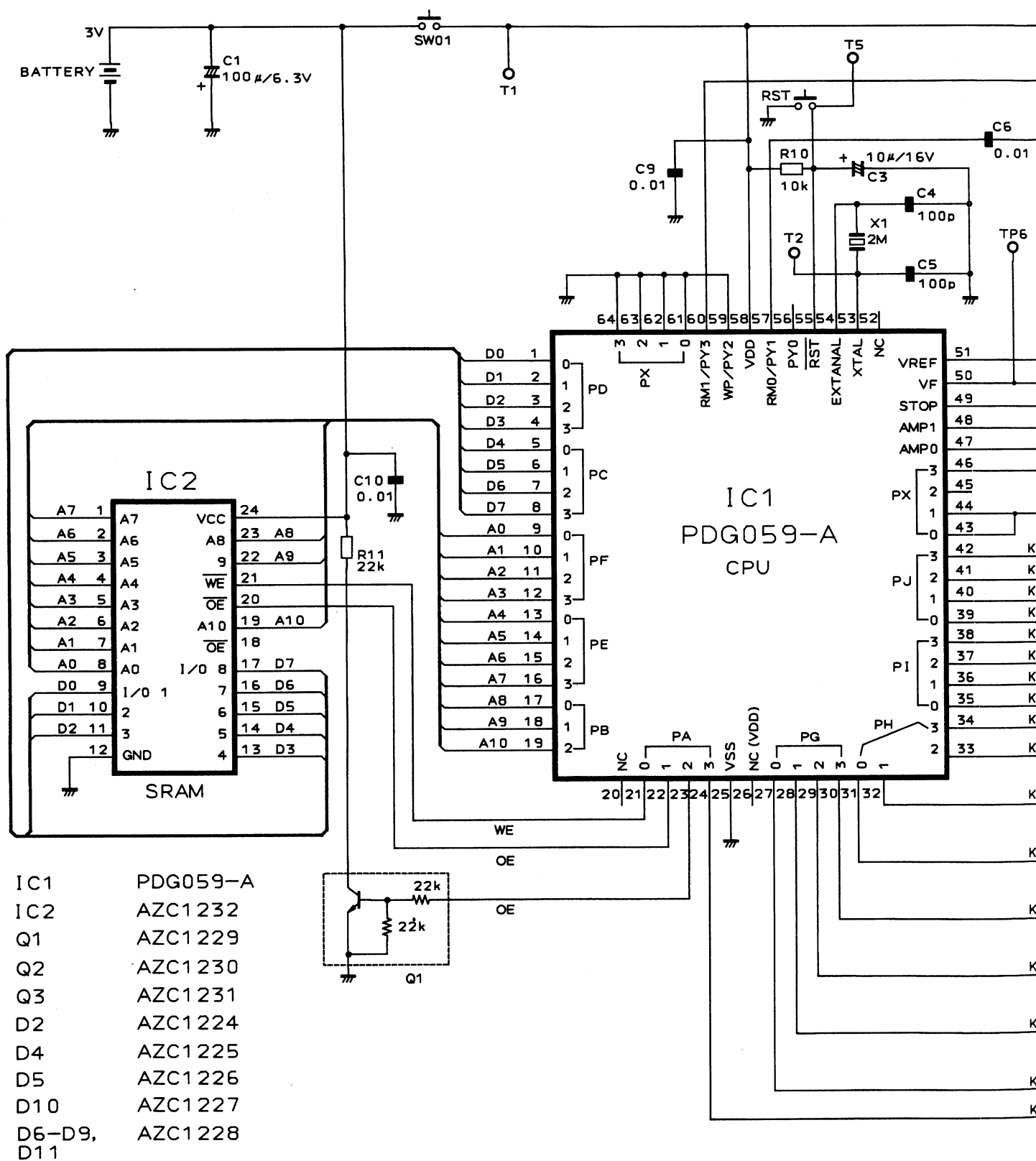
Indicated in capacity (μ F)/voltage (V) unless otherwise noted.
Indication without voltage is 50V except electrolytic capacitor.

A

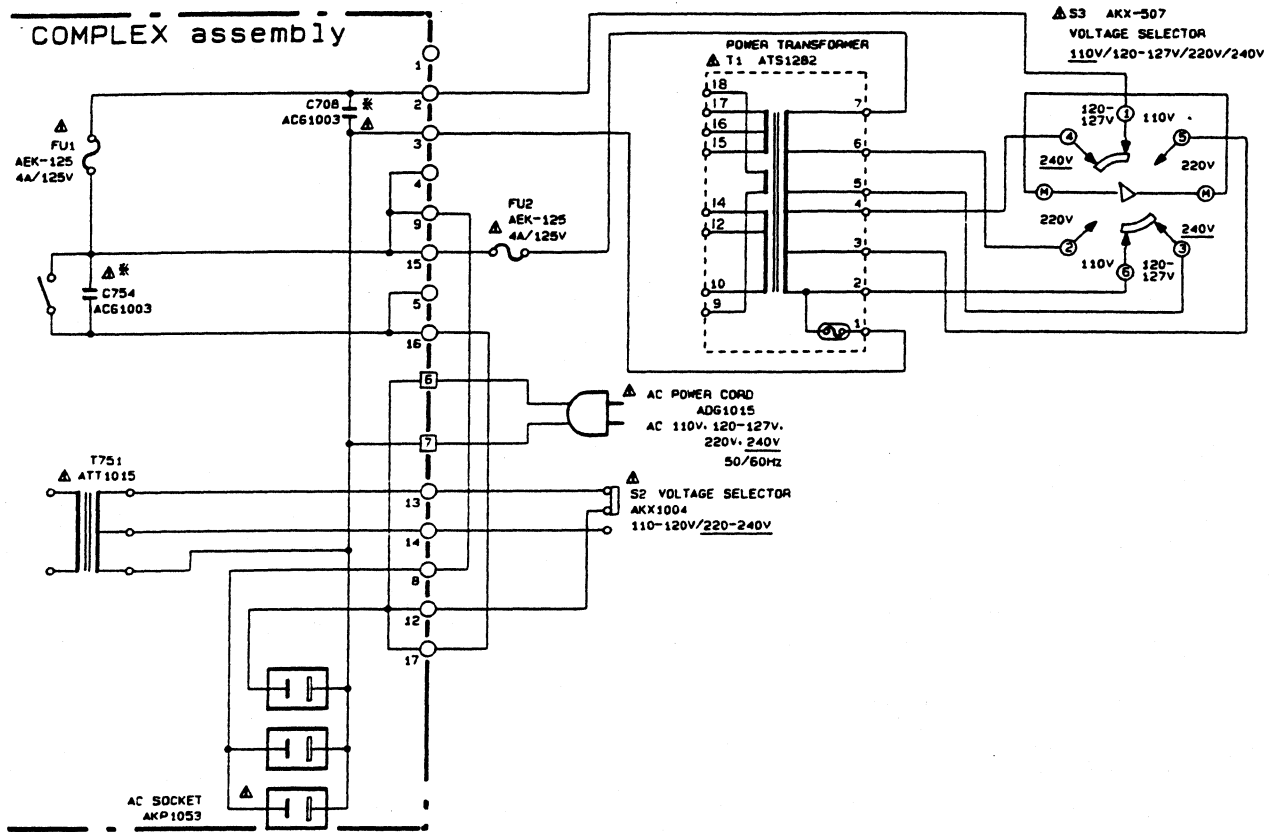
B

C

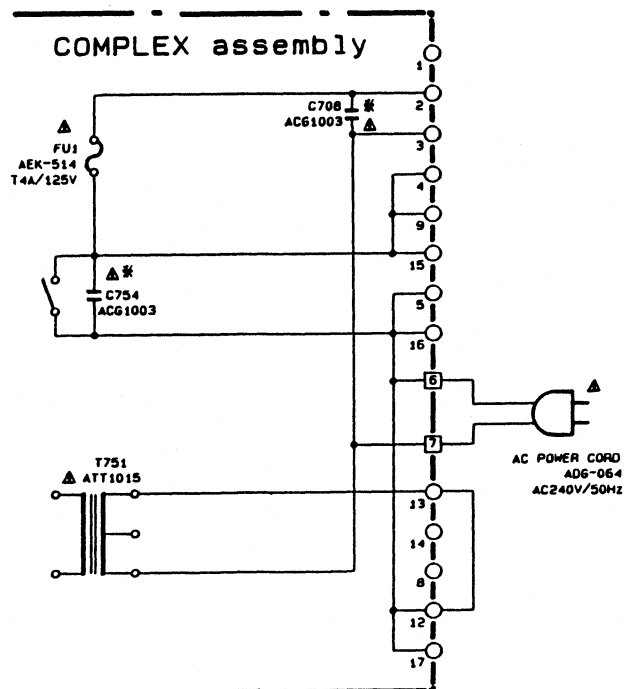
D



9.2 SCHEMATIC DIAGRAM (SD TYPE)



9.3 SCHEMATIC DIAGRAM (YPW TYPE)



(j) REAR LEVEL/DELAY TIME display

When REAR LEVEL is lit, it displays the surround rear level as compared to the front level. The offset value is 0 dB. A maximum of 20 dB, and a minimum of $-\infty$ is displayed.

When DELAY TIME is lit, it displays surround delay time settings.

(k) MEMORY indicator

(l) AUTO TUNING indicator

Lights when the FM TUNING AUTO/MANUAL switch is set to AUTO.

(m) SCAN indicator

Lights during station memory scan and custom memory scan operation.

(n) STATION display

Indicates channel (STATION CALL number) or sleep time.

⑨ MEMORY switch

When the unit is in the frequency display mode, pressing this switch will result in the memorization of the current broadcast band, reception frequency, and FM AUTO/MONO mode.

This switch is also used to input custom memory names.

⑩ SCAN switch

This switch is used for both station memory scan and custom memory scan.

⑪ CUSTOM MEMORY switches

You can use these switches to classify stations assigned to STATION CALL switches into different genres of music, depending on the material played on the station.

After classifying the stations, you can recall a particular genre and scan all the stations of that genre with memory scan until you find the desired one.

⑫ GRAPHIC EQUALIZER controls

The equalizer is divided into seven frequency ranges (60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz) to tailor music to the individual taste of the listener.

⑬ DIRECT ACCESS tuning switch

When this switch is pressed, the STATION CALL switches function as ten-key number switches for direct input of the desired reception frequency. Press again to cancel this mode.

If the input station falls outside of the receiver's tuning range, the display section will display a message: "UPPER" if the frequency is too high and "LOWER" if it is too low.

⑭ FM TUNING AUTO/MANUAL switch

Works during FM reception.

Use this switch to select either the AUTO mode or the MANUAL mode.

When the "AUTO TUNING" indicator is lit, the receiver is in the AUTO mode (see page 13).

⑮ FM MODE AUTO/MONO selector switch

Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the FM MONO indicator is lighted.

Auto stereo mode:

Normally leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo sound.

Monaural mode:

When receiving distant stations or stations with weak broadcast signals, the input signal may be weak, thus resulting in increased noise during FM stereo broadcasts. In this event, setting the receiver to the monaural mode will reduce the noise. In this case, however, FM stereo broadcasts will be reproduced in monaural sound.

NOTE:

This switch has no effect on reception of AM broadcasts.

⑯ MASTER VOLUME control

Use to adjust volume level.

⑰ BALANCE control

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the L position and if the left side is louder, turn toward the R position.

⑱ BAND Selector switches

These switches are used to select either AM or FM reception.

AM: Push this switch for AM reception.

FM: Push this switch for FM reception.

⑲ STATION CALL switches

These switches are used to preset and recall desired broadcasting stations.

⑳ TAPE 2 MONITOR switch

Press when listening to tape playback with the cassette deck 2.

㉑ Function switches

Use to select playback source.

[VCR/TAPE 1] — Press when performing playback on the cassette deck 1 or VCR.

[VDP/CDV] — Press when performing playback on a video disc player or CDV player, etc.

[CD] — Press when listening to compact disc playback with a CD player.

[TUNER] — Press when listening to AM or FM broadcasts with a tuner.

[PHONO] — Press when listening to record playback on a turntable.

㉒ DELAY TIME switch

Operates when the SIMULATED or DOLBY SURROUND mode is ON. For DOLBY SURROUND, 20 ms is standard.

DOLBY SURROUND:

15 ms → 20 ms → 25 ms → 30 ms

SIMULATED SURROUND:

→ 5 ms → 10 ms → 15 ms → 20 ms → 25 ms → 30 ms → 35 ms →

㉓ SURROUND MODE Switches

OFF:

To cancel the surround function.

STUDIO:

Enjoy the atmosphere of listening to music in a recording studio.

SIMULATED SURROUND:

Gives concert-hall presence to monaural sound (AM, TV, etc.).

With a monaural source, a much better surround effect is achieved if it is used together with SIMULATED STEREO.

DOLBY SURROUND:

Select this setting when watching video tapes or video discs bearing the  **DOLBY SURROUND** mark.